

SOUTH DELTA WATER AGENCY

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FAX COVER SHEET

TO: MR. KENNETH D. LANDAU
FROM: JOHN HERRICK, ESQ.

916 464 4758 4645

MESSAGE

Following is the Notice of Intent to Appear/Request to Participate as Designated Party and Testimony of Alex Hildebrand regarding Mountain House Proposed Waste Discharge Requirements.

Please advise if you wish the originals mailed to you.

Number of pages (including a cover page): 1 Date Sent: 7-14-06 Time Sent: 4:10 p.m.

xxxx Original **WILL NOT** follow Original **WILL** follow by:

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NOTICE OF INTENT TO APPEAR/REQUEST TO PARTICIPATE AS DESIGNATED PARTY

SOUTH DELTA WATER AGENCY seeks to participate as a designated party in the water right hearing regarding:

Mountain House Community Services District Wastewater Treatment Facility (NPDES No. CA0084271)

Scheduled for

August 3/4, 2006

XX I/We agree to accept electronic service of hearing-related materials
I/We plan to call the following witnesses to testify at the hearing:

NAME	SUBJECT OF PROPOSED TESTIMONY	ESTIMATED LENGTH OF DIRECT TESTIMONY	EXPERT WITNESS (YES/NO)
Alex Hildebrand	Salinity issues in South Delta	15 MIN	YES

Name, Address, Phone Number and Fax Number of Attorney or Other Representative

Signature: 

Dated: July 14, 2006

Counsel: John Herrick, Esq.

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TESTIMONY OF ALEX HILDEBRAND

HEARING ON PROPOSED WASTE WATER DISCHARGE REQUIREMENTS FOR MOUNTAIN HOUSE COMMUNITY SERVICES DISTRICT

My name is Alex Hildebrand. I was a Director of the South Delta Water Agency (SDWA) for 30 years and am currently the engineer for that Agency. A copy of the Agency's boundaries is provided as Attachment "A." I have testified many times before this Board as well as other regulatory and legislative bodies and was qualified as an expert witness with regard to the water quality and flow issues affecting the South Delta.

A copy of my current statement of qualifications is attached hereto as Attachment "B." Briefly, I have a B.S. in physics with minors in chemistry and engineering, and worked for Chevron until I retired in engineering and technical capacities including Assistant Chief Engineer of the Richmond Refinery and Director of the La Habra Research Laboratory. Since that time I have farmed approximately 150 acres on the San Joaquin River about 12 miles by river downstream of Vernalis in the South Delta. For the past 30 years, I have been intimately involved in the discussions, negotiations, regulatory proceedings and litigation to protect its diverters from the adverse effects of SWP and CVP and to insure the area has an adequate supply of good quality water.

My testimony is meant to explain the ongoing problems in the South Delta with regard to flow, water levels, and salinity. Because these issues have been addressed many times before the SWRCB, I am referencing and incorporating herein the various testimony, evidence, and transcripts from this year's CDO hearing before the Board.

The issues facing the Regional Board in this hearing include limitations on the discharge of salinity pursuant to the Mountain House permit.

The area of discharge is one of the more impaired areas in the South Delta. With the temporary barriers in place, the portion of Old River between the Tracy Old River barrier and Tracy Boulevard is generally a stagnant zone. In this area, salts collect and DO decreases. Until the temporary barrier program is replaced with a permanent barrier program, this situation will continue during most summer and fall months.

Discharges of effluent into this area by Tracy or Mountain House add salts at high concentrations. The result is that local diverters suffer from the CVP/SWP induced high salinities and the added salt load and concentration of the effluent.

If the current standards were being met and flushing flows were present, effluent discharges might not impact local agricultural uses. However, that is not the case. Current USBR operations only seek to meet the Vernalis standard. Absent any other

actions, this means the three interior South Delta standards would be a function of further downstream concentration (from consumptive use) and potential dilution from export induced flows across the Delta.

Currently, the temporary barrier program provides some protection against decreased water levels caused by the export projects. However, that protection has altered the location, and increased the magnitude of stagnant zones (also generally caused by the export pumps). This result includes the stagnant zone in Old River referenced above. At this time, no other DWR or USBR operations address this situation or are anticipated to flush the stagnant zone. Therefore, effluent discharges of 1875 EC by Mountain House will either exacerbate current violations or cause additional violations.

As stated in my CDO testimony, the permanent barrier program is not anticipated to result in compliance with the current standards. Although the SDIP will improve circulation, it fails to provide sufficient flushing or dilution to always meet the standards, including the Tracy Boulevard one.

According to modeling done by DWR at SDWA's request, the incoming tidal flows are insufficient at some times to flush this portion of Old River. Absent such flushing, salinity will rise. The reasons this happens are as follows: At the low tide cycle, the amount of tidal inflow and San Joaquin River inflow are only enough to provide (in most cases) for channel depletion needs. There is no "extra" inflow to induce a flushing of the Old River channel. Attached hereto as Exhibit "C" are some summaries of that modeling. Although solutions to this problem are possible, increasing the problem (by authorizing increased saline discharges) should not be allowed until the solutions are found and implemented.

The mechanics of the flows and solutions can be complicated, and I look forward to explaining them as best as possible to the Board.

The draft Order misstates the issues and facts involving the effects of irrigation water salinity on crop yields. I refer the Board to the Testimony of Terry Prichard and Sean Snaith submitted with SDWA's comments. Mr. Prichard clearly explains how the soils in the South Delta impair the leaching of salts and why the current standards are needed to protect most all crops, and not just salt sensitive ones.

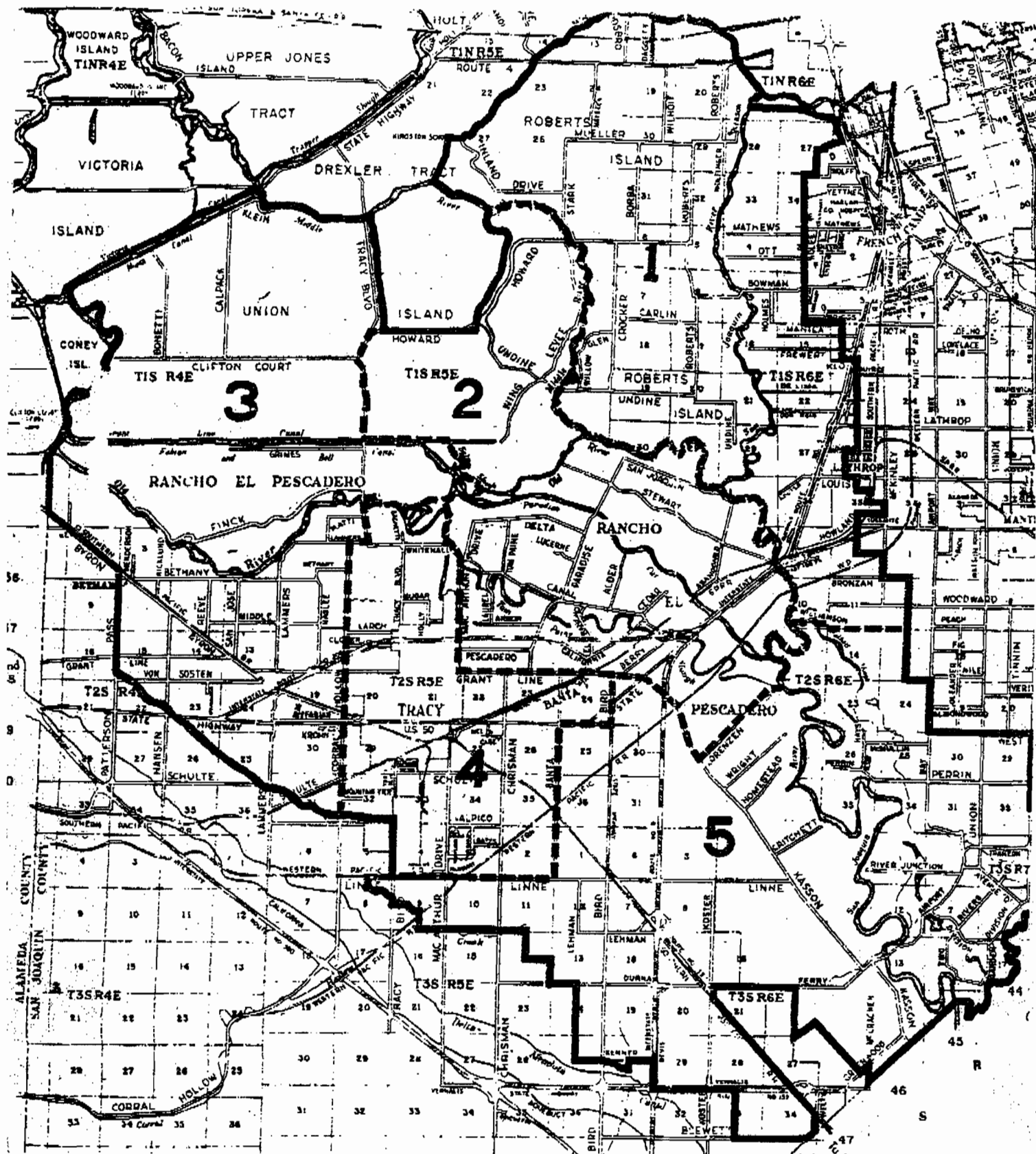
Dr. Snaith gives an excellent overview of the area wide economic impacts associated with salinities above the standards.

I want to make sure this Board understands that the 0.7/1.0 EC standard is not some flexible, unspecific protection. Increases of salinity above these levels does cause damage to plants and yields in general, not just to "salt sensitive" ones. The mixture of low permeability soils in the South Delta prevents adequate leaching which leads to a salt build up and the adverse effects on crops. The science behind this is very clear and not subject legitimate dispute.

In my opinion, trying to determine (as proposed in the Order) that some local growers can get by with higher salinities is not only impractical, but also unfair. Not only have these issues already been determined, but there is no societal reason to limit local growers to some small number of crops just because others want to pollute.

The question then remains, what to do? All options for the municipal dischargers must be explored and evaluated. Things such as dilution, or timing of discharges are possible. They may also be able to contribute to SDWA's suggested plan of supplementing the permanent barriers by installing low lift pumps to increase the "tidal" inflow behind the permanent barriers.

Regardless, in addition to imposing specific salt reduction actions, the municipalities should not be allowed to increase discharges above the standard until solutions are found.

**EXHIBIT 'A'**

**STATEMENT OF QUALIFICATIONS OF
ALEX HILDEBRAND**

Agriculturally Related Qualifications

- ° Director and Secretary of South Delta Water Agency 1973 -2004
- ° Engineer for South Delta Water Agency 2004 - present
- ° President of Delta Water Users Association
- ° President of McMullin Reclamation District No. 2075
- ° President of San Joaquin River Water Users Company (non-profit water distributor within District #2075)
- ° Director of California Central Valley Flood Control Association
- ° President of San Joaquin River Flood Control Association
- ° Director (and member of Water Committee) of San Joaquin County Farm Bureau
- ° Member of California Farm Bureau Water Advisory Committee
- ° Owner (since 1944) and resident operator (since 1963) of 150-acre farm (in District #2075). Have made observations for several years of the depth of water percolation in two of my fields by use of Tensiometers, and have observed over many years the dramatic effect of variation in applied water salinity on the production and quality of produce from our family produce plot.
- ° Participated in development of South Delta Barrier Program
- ° Active participant in San Joaquin River Management Plan
- ° Expert witness in numerous hearings before the State Water Resources Control Board
- ° Member CalFed Bay/Delta Advisory Council

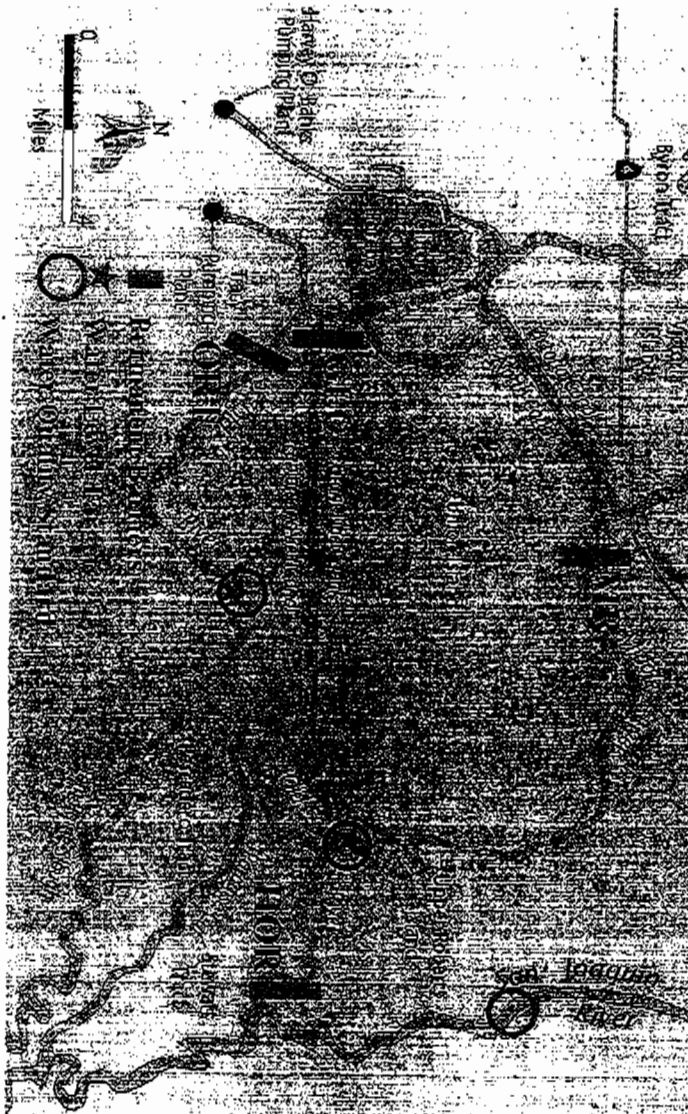
Professional Qualifications

- ° Honors Degree in Physics from U.C. Berkeley
- ° Registered Professional Engineer
- ° Former Assistant Chief Engineer of Chevron's Richmond Refinery
- ° Retired Director of Chevron's Oil Field Research Laboratory. The research in that laboratory covered a broad spectrum of science and engineering, including substantial research on the flow of fluids through permeable earth materials (both in laboratory and field tests) together with the movement of dissolved materials. This work required an understanding of the mechanisms of fluid flow, the physical chemistry involved, and the consequences of non-uniform permeability. Also responsible for analyzing and determining the applicability of these research results to commercial operations.

SDWA\Memos. Misc\Statement of Qualifications AH

Exhibit "B"

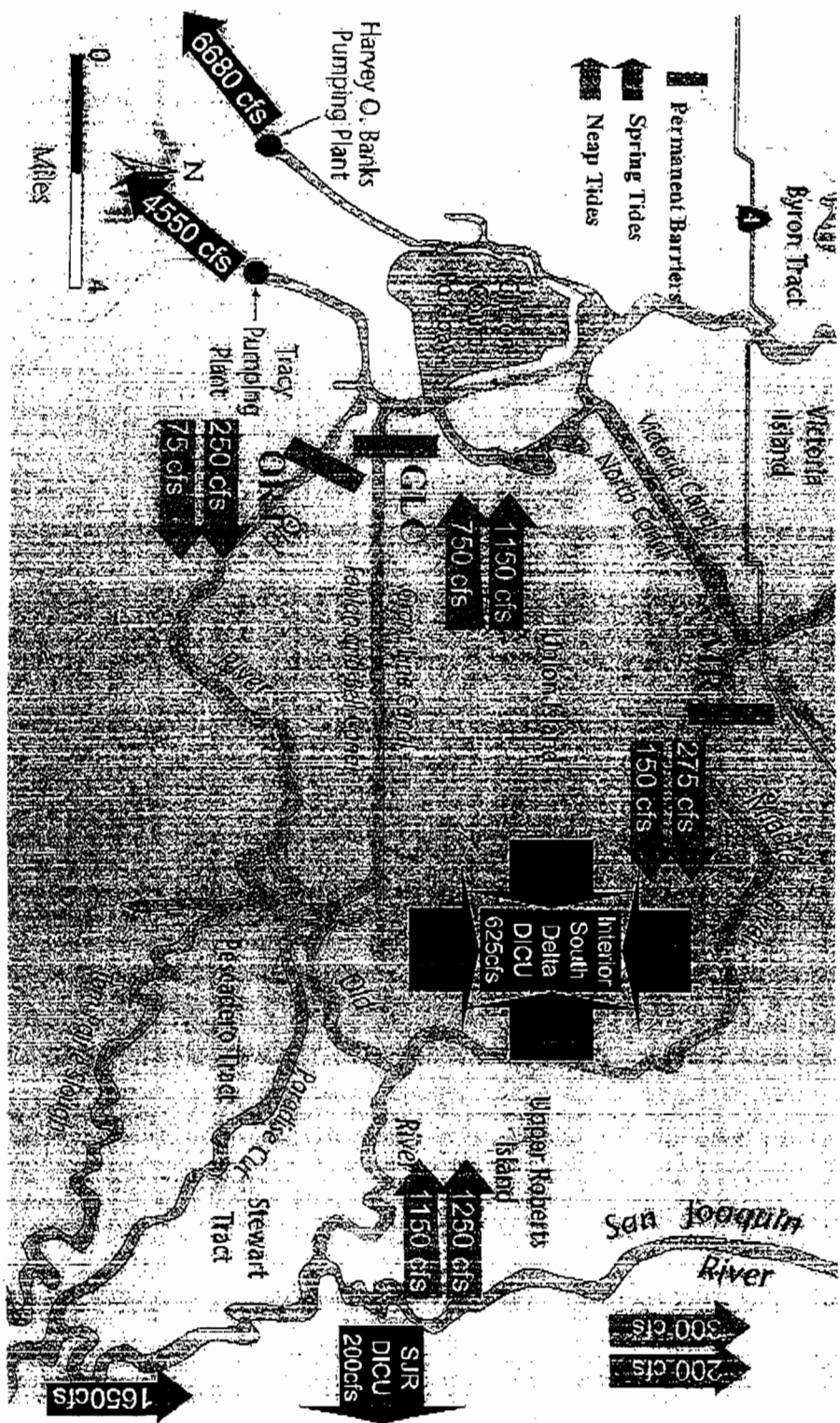
SDWA Inquiry on SDIP Barrier Ops



January, 2004

EXHIBIT "C"

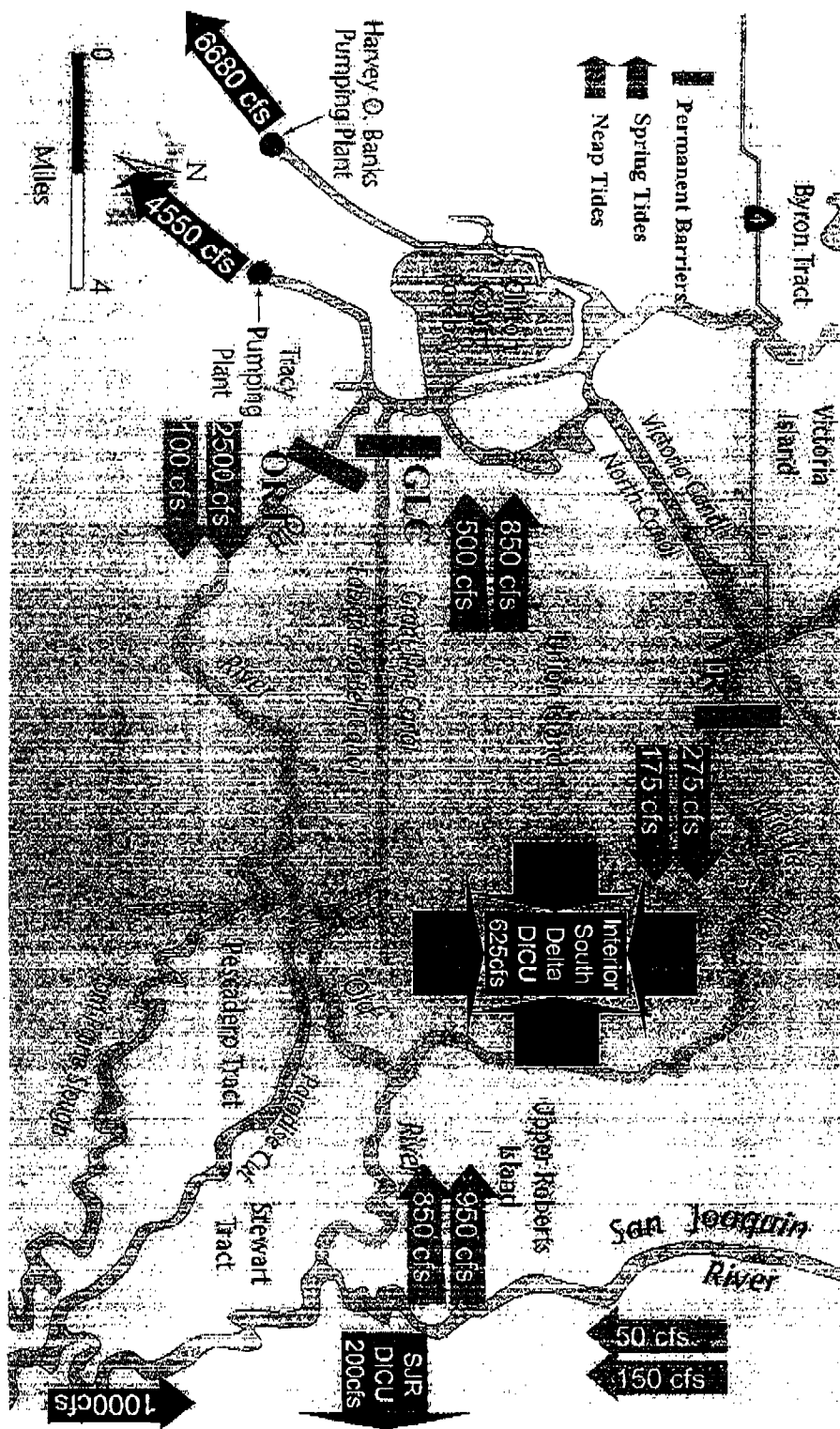
Net Flows - Reduction of SWP Pumping with Priority 4 Ops



July 1985

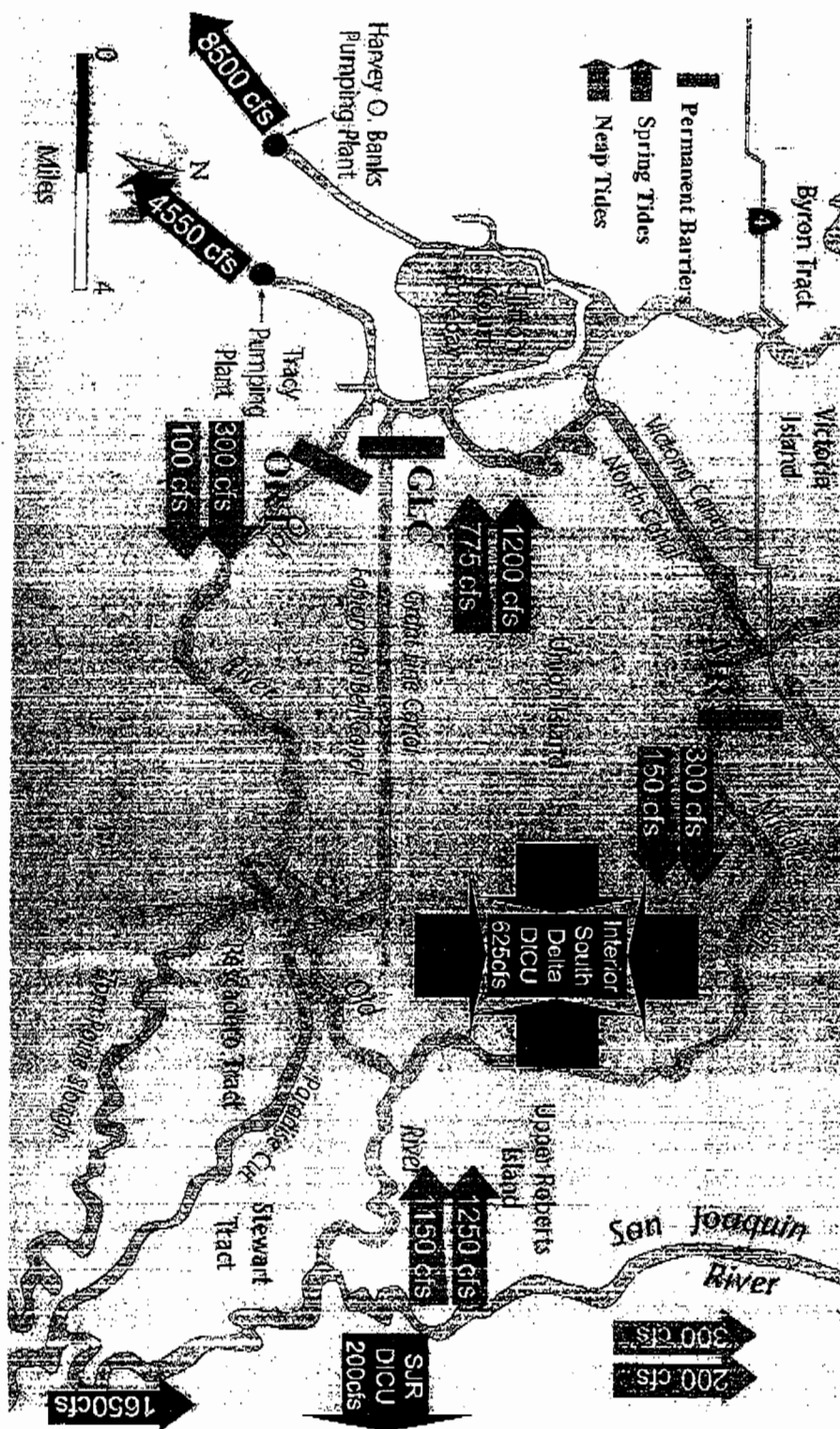
Net Flows - Low SJR

Low SWP Priority 4 Ops



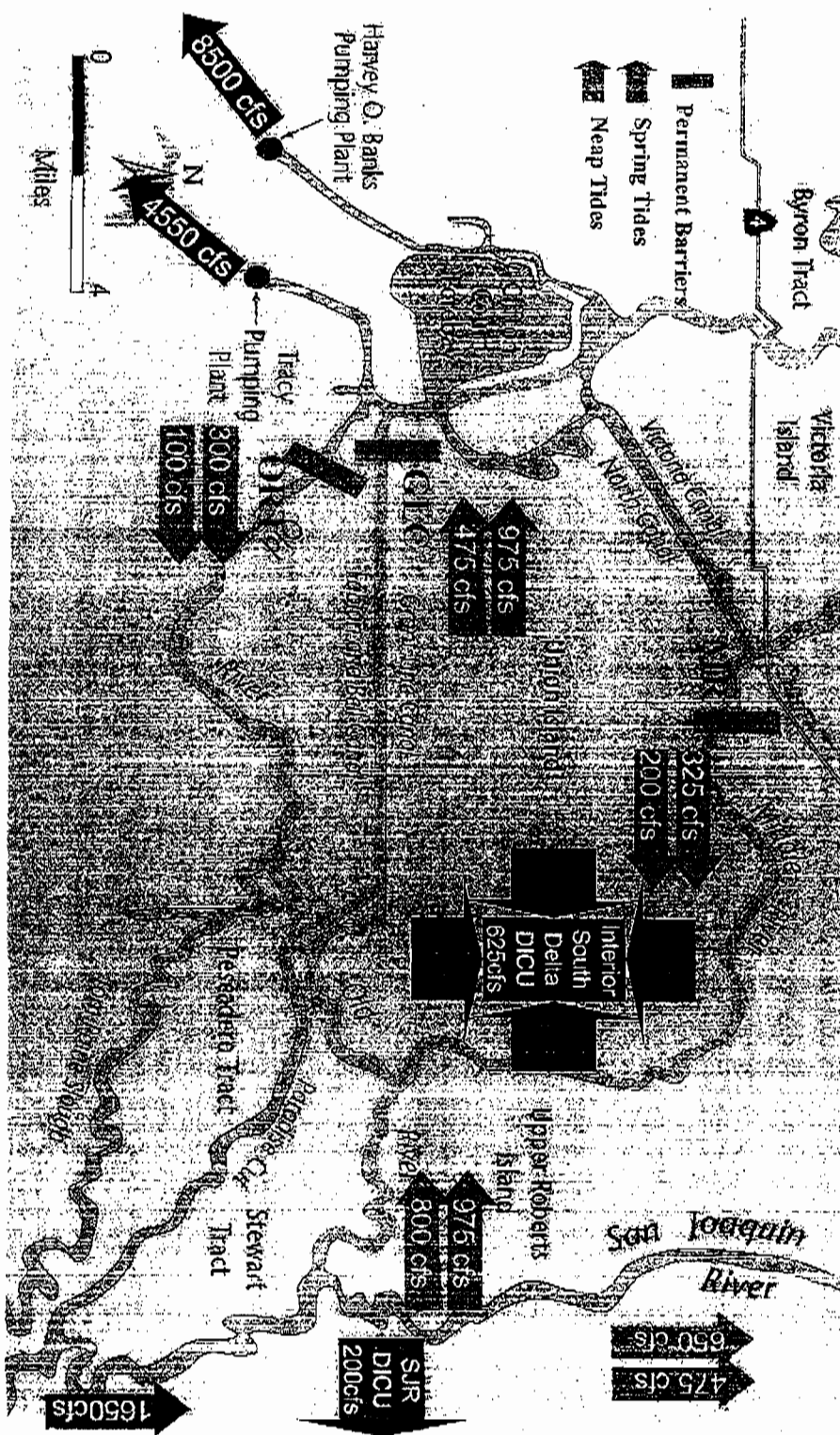
July 1985

Net Flows SWP Priority 3 Ops



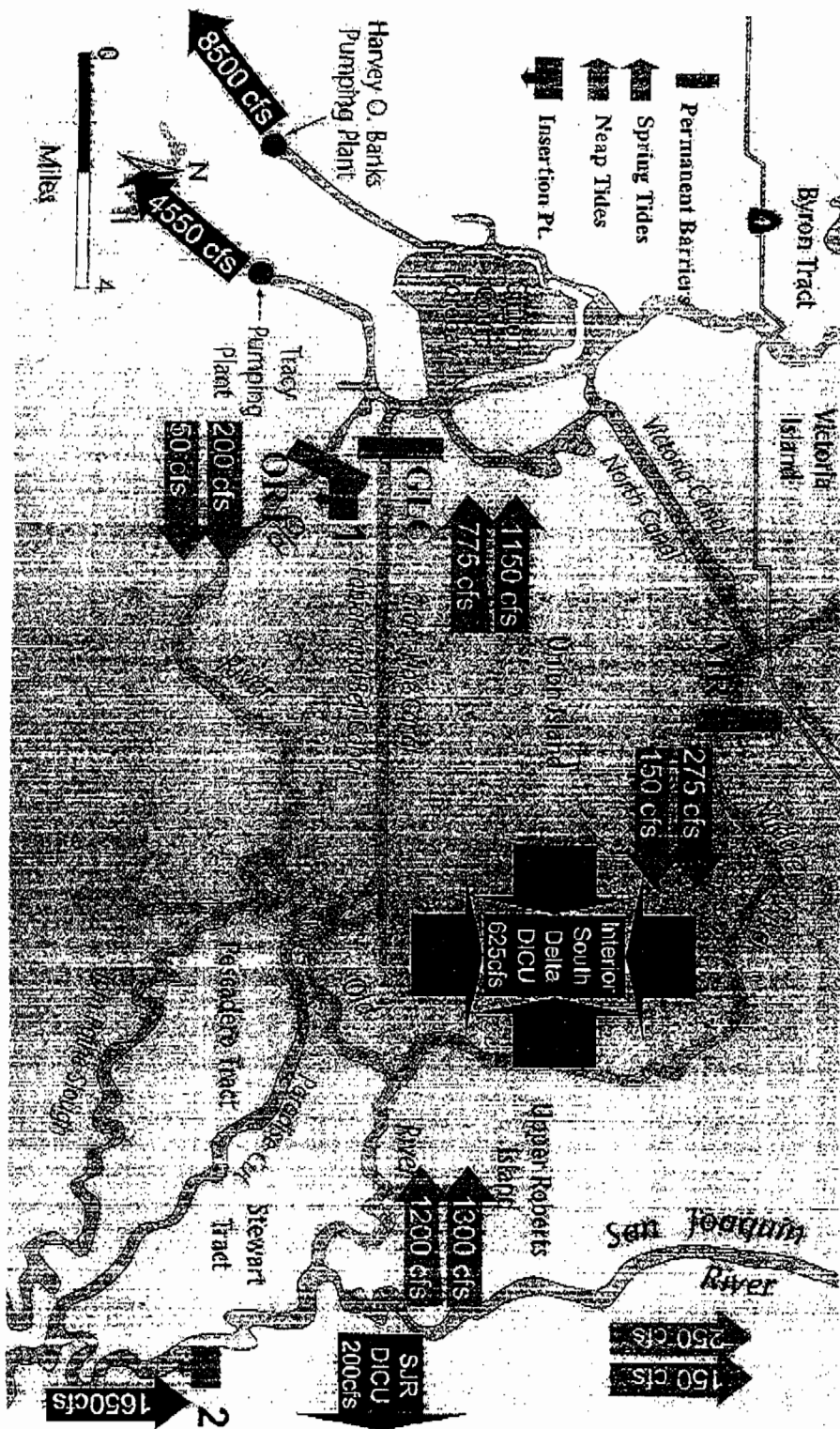
July 1985

SWP Priority 3 Ops, 60/40 Head Split



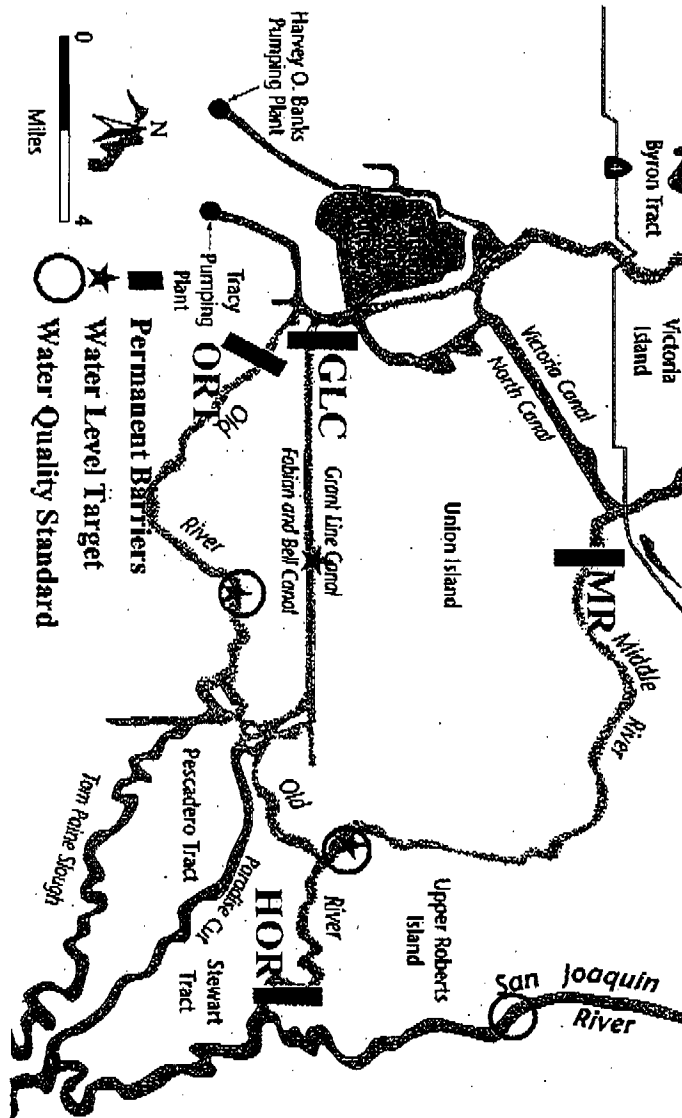
July 1985

PTM Runs



July 1985

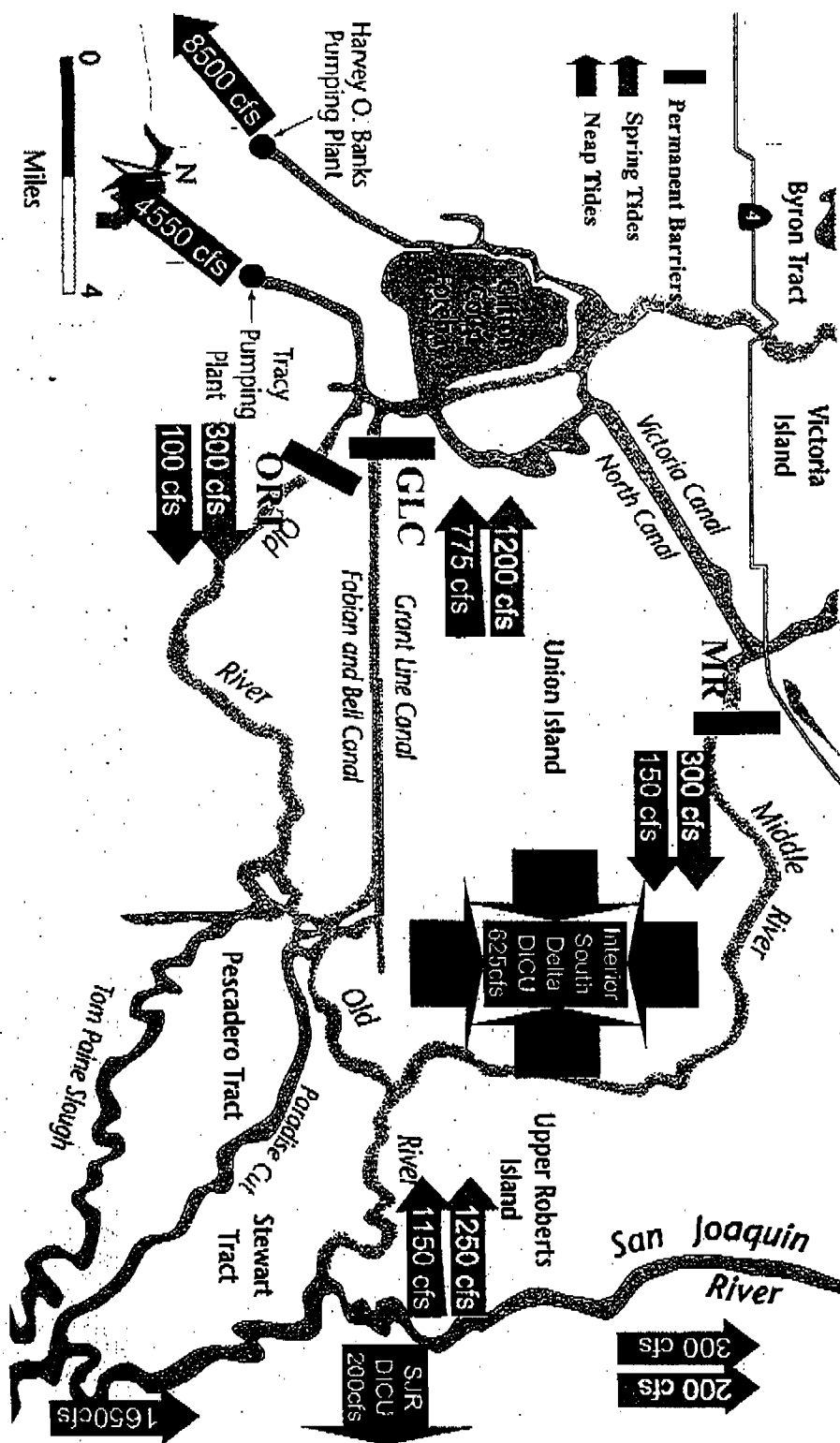
SDWA Inquiry on SDIP Barrier Ops



February 7, 2005

Net Flows - SJR 1640 cfs

SWP Priority 3 Ops

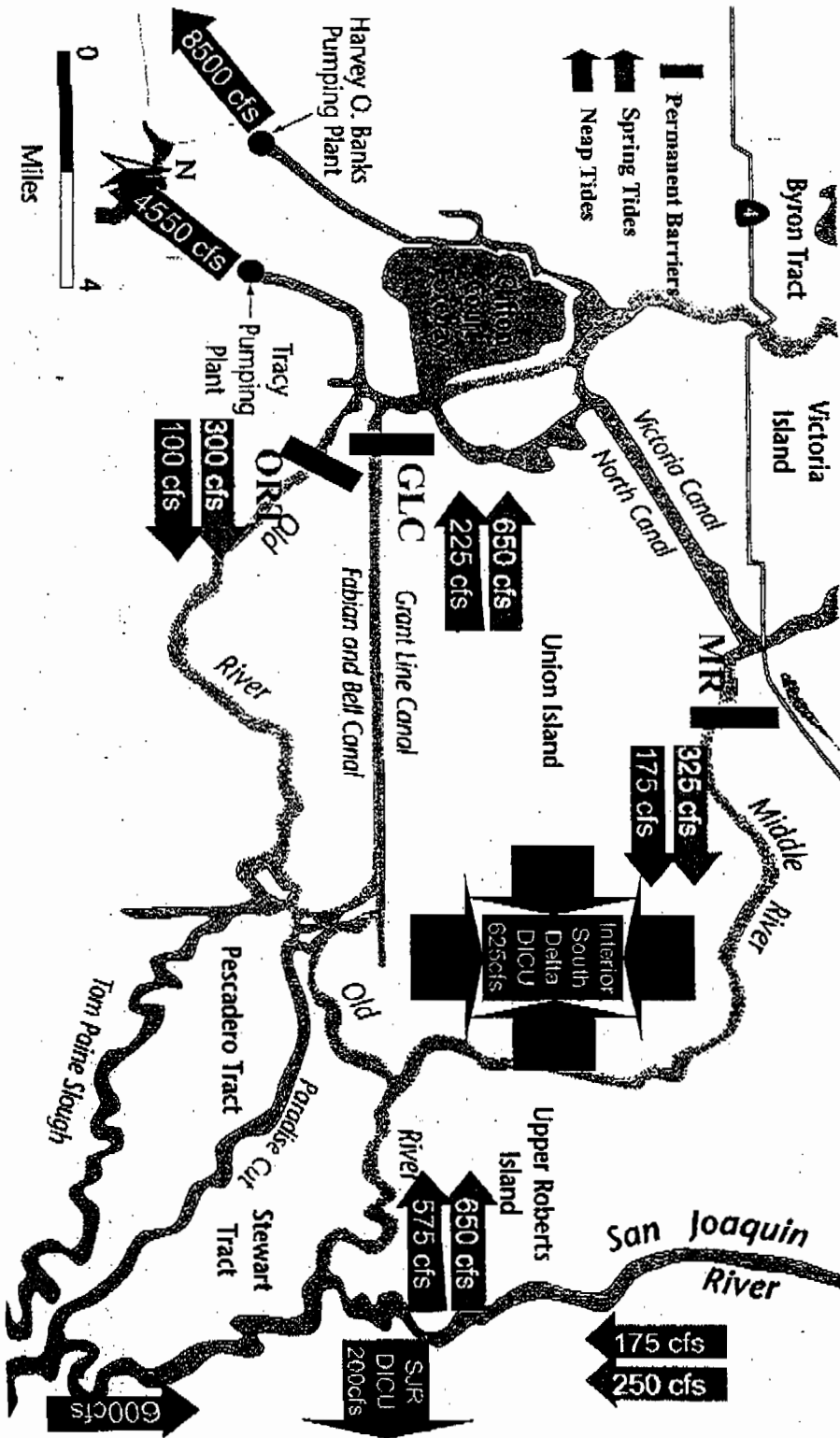


July 1985

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July 1985

Net Flows – SJR 600 cfs SWP Priority 3 Ops



July 1985